

### **REMARKS**

Claims 1-28 were pending in the application. Please cancel claims 19-25 and 27-28 without prejudice as Applicant reserves the right to pursue the cancelled claims in a continuation application. Claims 1, 4-5, 10-18, and 26 have been amended. Support for the amendments to the claims can be found in the specification, for example, at page 5, lines 10-14 and page 6, lines 4-8. Claims 29-35 are newly submitted. No new matter has been added. Accordingly, claims 1-18, 26, and 29-35 remain pending in the application. Reconsideration is respectfully requested in view of the amendments to the claims and the following remarks.

#### **I. The § 112 Rejections**

Claims 1-28 were rejected under 35 U.S.C. § 112 as being indefinite. Applicant has amended the claims to overcome the § 112 rejections. Applicant, therefore, respectfully requests withdrawal of the § 112 rejections.

#### **II. The § 101 Rejections**

Claims 1-28 were rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. Applicant has amended the claims to overcome the § 101 rejections. For example, Applicant has amended claim 1 to recite a computer-implemented method for performing read/write access of data stored in a leaf of a tree structure within an external memory of an embedded processing system. The method includes the steps of storing a control structure including a control vector and a match key within the leaf of the tree structure, and processing an input key pattern to locate the leaf of the tree structure by performing the type of comparison test indicated by the stored control vector between the input key pattern and the match key. The method further includes accessing the data stored in the leaf of the tree structure to perform a read or write responsive to the input key pattern matching the input key pattern in accordance with the performed

comparison test. Applicant, therefore, respectfully submits that claim 1, as amended, is directed towards a practical application and produces a tangible result.

Independent claims 10 and 26 have been amended in a similar manner with respect to claim 1 to overcome the § 101 rejections.

### **III. The § 102 Rejections**

Claims 1-5, 7, 9-14, 16, 18-21, 23 and 25-28 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,675,163 (“Bass”). Applicant respectfully traverses the rejections.

Claim 1, as amended, recites a method for performing read/write access of data stored in a leaf of a tree structure within an external memory of an embedded processing system. In particular, the method includes providing a control structure for the leaf of the tree structure. The control structure includes a control vector and a match key, in which the control vector indicates a type of comparison test to be performed on the match key. The method further includes storing the control structure including the control vector and the match key within the leaf of the tree structure.

The method further includes processing an input key pattern to locate the leaf of the tree structure by performing the type of comparison test indicated by the stored control vector between the input key pattern and the match key.

#### *A. Bass Fails To Disclose a Storing a Control Structure of the Kind Recited In Claim 1 Within a Leaf of a Tree Structure*

Bass discloses a method and apparatus for finding a full match between a search pattern and a pattern stored in a leaf of a search tree (see Abstract). In particular, Bass discloses a Patricia tree structure having leaves that stores hash keys. Each leaf corresponds to a single key that matches exactly an input key (of a search algorithm) (col. 4, ll. 24-47). Fig. 5 of Bass

illustrates a leaf that contains a key, along with aging information and user information (col. 9, ll. 17-25).

While Bass discloses storing a key within a leaf of a tree structure, Bass fails to disclose storing a control vector within the leaf of the tree, in which the control vector indicates a type of comparison test to be performed on the key, as recited in claim 1 (emphasis added). In particular, claim 1 recites processing an input key pattern to locate the leaf of the tree structure by performing the type of comparison test indicated by the stored control vector between the input key pattern and the match key. Accordingly, the stored control vector dictates the type of comparison to be made between an input key pattern and the match key.

In contrast, Bass specifically discloses that the type of search action to be performed between an input key (col. 4, ll. 40-41) and a key (within a leaf of Bass's Patricia tree structure) resides in a lookup definition table (LUDefTable). The LUDefTable is implemented as three separate random access memories which are not contained within a leaf (col. 10, ll. 5-16, emphasis added).

The Examiner cites column 10, lines 22-45 of Bass as disclosing storing a control structure (that indicates a type of comparison test to be performed on the match key) within a leaf of a tree structure. Applicant respectfully disagrees. In the cited portion, Bass discloses enabling colors within a tree. A color is an additional pattern that can be used to distinguish between different keys. For example, a color could represent a VLAN ID in a MAC source address in which an input key represents the MAC source address and the color represents the VLAN ID. Accordingly, the color is a part of the key pattern and, therefore, can be used to distinguish between MAC source addresses of different VLANs (col. 10, ll. 35-43). The use of colors within a key, however, does not determine a type of search to be performed on the key. Consequently, Bass fails to disclose storing a control vector within the leaf of the tree, in which the control vector indicates a type of

comparison test to be performed on the key, as recited in claim 1. Claim 1 is, therefore, allowable over Bass.

Claims 2-9 depend from claim 1, and are allowable over Bass for at least the same reason as those set forth with respect to claim 1.

*B. Other Independent Claims*

Claims 10 and 26 each incorporates limitations similar to those of claim 1. Claims 10 and 26 (and the claims that depend therefrom) are also allowable over Bass for reasons corresponding to those set forth with respect to claim 1.


**IV. Allowable Subject Matter**

Applicant wishes to thank the Examiner for indicating that claims 6, 8, 15, 17, 22 and 24 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 101, and § 112, second paragraph, and to include all limitations of the base claim and any intervening claims.

Applicant submits that claims 1-18, 26, and 29-35 are allowable over the reference cited above and are in condition for allowance. Should any unresolved issues remain, Examiner is invited to call the undersigned at the telephone number indicated below.

Respectfully submitted,  
SAWYER LAW GROUP LLP

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Date

  
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